

LISTING OF CLAIMS

1-23. (canceled)

24. (previously presented) A method of detecting the presence of antibodies to *M. bovis* and *M. tuberculosis* in a biological sample, said method comprising:

combining said sample with a protein having the amino acid sequence of SEQ ID NO:2 or an antigenic determinant thereof; and
detecting antibodies bound to said protein.

25. (canceled)

26. (previously presented) The method of Claim 24, wherein said protein is immobilized on a solid support.

27. (previously presented) The method of Claim 26, wherein said solid support is nitrocellulose.

28. (previously presented) The method of Claim 24, wherein said sample comprises one or more of sputum, blood, and serum.

29. (previously presented) The method of Claim 24, wherein said detecting is by a qualitative detection system.

30. (previously presented) The method of Claim 29, wherein said qualitative detection system is a horseradish peroxidase-protein A detection system.

31. (previously presented) The method of Claim 24, wherein said detecting is by a quantitative detection system.

32. (previously presented) The method of Claim 31, wherein said quantitative detection system is a radioimmunoassay. ?

33. (previously presented) The method of Claim 24, further comprising:
combining a control biological sample with said protein; and
comparing the detection of said binding to the binding of antibodies in the control sample with said protein.

34-40. (canceled)

41. (previously presented) A method of detecting the presence of Mycobacterium in a biological sample, said method comprising;
lysing the cells in said sample;
combining said lysate with antibodies to a protein having the amino acid sequence of SEQ ID NO:2 or an antigenic determinant thereof; and
detecting said antibodies bound to protein in said lysate;
wherein said Mycobacterium is *M. bovis*, *M. tuberculosis*, *M. leprae*, *M. africanum*, *M. microti*, *M. avium*, *M. intracellulare* or *M. scrofulaceum*.

42. (previously presented) The method of Claim 41, wherein said Mycobacterium is *M. bovis*.

43. (previously presented) The method of Claim 41, wherein said lysate is immobilized on a solid support.

44. (previously presented) The method of Claim 43, wherein said solid support is nitrocellulose.

45. (previously presented) The method of Claim 41, wherein said detecting is by a qualitative detection system.

46. (previously presented) The method of Claim 45, wherein said qualitative detection system is a horseradish peroxidase-protein A detection system.

47. (previously presented) The method of Claim 41, wherein said detecting is by a quantitative detection system.

48. (previously presented) The method of Claim 47, wherein said quantitative detection system is a radioimmunoassay.

49. (previously presented) The method of Claim 41, further comprising:
culturing a diagnostic sample to produce colonies of bacteria present therein, whereby said culture represents said biological sample.

50. (previously presented) A method of detecting the presence of antibodies to a virulent Mycobacterium in a biological sample, said method comprising:
combining said sample with a purified protein of a mycobacterium other than *M. bovis* BCG, wherein said protein is a homolog of the protein of SEQ ID NO:2; is an immunogenic membrane-associated protein of said mycobacterium; and is encoded by DNA which is capable of hybridizing with a DNA probe having the complete sequence represented in SEQ ID NO: 1 under conditions where, on a Southern blot, said probe will identify single 3.25 kb BamHI fragments from *M. bovis* BCG and *M. tuberculosis* H37Rv DNA, but will not hybridize with BamHI-digested DNA from either *M. smegmatis* or *M. vaccae*.

51. (canceled)

41 52. (previously presented) The method of Claim 41, wherein said Mycobacterium is *M. tuberculosis*.
